

Listing of Claims:

Claim 1-14 (canceled)

Claim 15 (new) A method for detecting and geographically locating a user accessing a wireless computer network wirelessly, the method comprising:

- pre-collecting and pre-mapping performance parameters of wireless computers with respect to at least one access point within a geographical area covered by the wireless computer network;

- obtaining a spatial performance model for the geographical area based on the collected performance parameters, the spatial performance model is defined by a plurality of islands, each island shares substantially the same performance parameters;

- identifying the user based at least on a Media Access Control (MAC) address and Internet Protocol (IP) address;

- acquiring at least one performance parameter of the user;

- mapping and matching the at least one performance parameter acquired for the user on the spatial performance model to identify the matched island; and

- identifying a geographical location of the user through the matched island.

Claim 16 (new) The method according to claim 15, further comprising deriving at least one network performance index for each island.

Claim 17 (new) The method according to claim 16, wherein deriving the network performance index comprising:

- obtaining differences between the acquired performance parameters of the user and the performance parameters in the spatial performance model;

- determining a minimum value for each difference;

- normalizing the acquired performance parameters for each difference to obtain a rank number; and

- summing the rank number for each island to obtain the network performance index.

Claim 18 (new) The method according to claim 16, wherein deriving the network performance index comprising

determining a minimum values of each performance parameter in the spatial performance model;

normalizing the values of each performance parameter in the spatial performance model and the acquired performance parameters of the user to obtain the rank numbers;

obtaining the differences between the rank numbers of performance parameters in the spatial performance model and the acquired performance parameters of the user; and

summing the differences for each island to obtain the network performance index.

Claim 19 (new) The method according to claim 15, further comprising matching the user's MAC address and IP address with a database to identify if the user is an authorized user.

Claim 20 (new) The method according to claim 15, wherein the user is identified as a potential rogue user if the user is not the authorized user.

Claim 21 (new) The method according to claim 15, further comprising effecting at least one network security measure against the rogue user.

Claim 22 (new) The method according to claim 16, further comprising:

deriving at least one performance index for the user; and

determining the geographical location of the user by comparing the performance index of the user with historical, average performance indices of each island pertinent to the time of detection of the user.

Claim 23 (new) The method according to claim 16, wherein deriving of the at least one performance index comprising dynamically re-mapping the islands previously mapped based on a current performance index of each island at time intervals.

Claim 24 (new) The method according to claim 22, wherein deriving of the performance index of the user is substantially the same as deriving of the performance index of each island.

Claim 25 (new) The method according to claim 22, wherein identifying the geographical location of the user comprising matching the performance indices of the at least one island with the performance index of the user.

Claim 26 (new) The method according to claim 21, wherein affecting at least one network security measure comprising:

- logging particulars of the potential rogue user;
- displaying geographical location of the potential rogue user; and
- denying access to the potential rogue user.

Claim 27 (new) The method according to claim 15, wherein the performance parameters includes variables defined at any of a physical layer, a network layer, an application layer and a data link layer.

Claim 28 (new) The method according to claim 27, wherein the physical layer includes any or all of signal strength, noise power and signal-to-noise ratio.

Claim 29 (new) The method according to claim 27, wherein the network layer includes any or all of ping response time, packet round-trip time, packet loss rate and propagation delay times.

Claim 30 (new) The method according to claim 27, wherein the application layer includes any or all of transactions responses, applications responses and end-to-end delay times.

Claim 31 (new) The method according to claim 27, wherein the data link layer includes any or all of link utilization, frame loss rate, number of error frames and throughput rate.

Claim 32 (new) The method according to claim 15, wherein the spatial performance model differs at a particular period of the day.

Claim 33 (new) The method according to claim 15, wherein the performance parameters include any of distance from access point, number of wireless users, network topology, building material used and time of day.

Claim 34 (new) A system for detecting and geographically locating a user accessing a wireless computer network having at least one wireless access point wirelessly, the system comprising:

- a network management system residing on a computer system of the wireless computer network, the network management system operationally detects users accessing to the wireless computer network and acquires one or more performance parameters of the users;

- a spatial performance model defining a plurality of islands of performance parameters, the performance parameters are obtained through pre-collecting and pre-mapping over a geographical area covered by the wireless computer network;

- wherein the network management system operationally detects users and identifies at least a MAC address and IP address of the users and acquiring at least one performance parameter of the users, the system is operable to map and match the at least one performance parameter acquired for the user on the spatial performance model to identify a matched island for each user, thereby identifying a geographical location of the user through the matched island.

Claim 35 (new) The system according to claim 34, wherein the at least one wireless access point is connected to a wired computer network.

Claim 36 (new) The system according to claim 34, wherein the plurality of island is defined by a network performance index.

Claim 37 (new) The system according to claim 36, wherein the network performance index is a sum of rank number of each island, wherein the rank number is obtained

through normalizing the acquired performance parameters by a differences between the acquired performance parameters of the user and the performance parameters in the spatial performance model.

Claim 38 (new) The system according to claim 36, wherein the network performance index is a sum of differences of rank numbers of performance parameters in the spatial performance model and the acquired performance parameters of the user, of which, the performance parameters of the spatial performance model and the users are normalized by a minimum values of each performance parameter in the spatial performance model.

Claim 39 (new) The system according to claim 35, wherein the MAC address and IP address of the users are matched against a database to identify if the user is an authorized user.

Claim 40 (new) The system according to claim 34, wherein the geographical location of the user is determined by comparing a performance index of the user with historical, average performance indices of each island pertinent to the time of detection of the user.

Claim 41 (new) The system according to claim 34, wherein the islands previously mapped are dynamically re-mapped based on a current performance index of each island at time intervals.

Claim 42 (new) The system according to claim 34, wherein deriving of the performance index of the users is substantially the same as deriving of the performance index of each island.

Claim 43 (new) The system according to claim 34, wherein the performance parameters includes variables defined at any of a physical layer, a network layer, an application layer and a data link layer.

Claim 44 (new) The method according to claim 34, wherein the physical layer includes any or all of signal strength, noise power and signal-to-noise ratio.

Claim 45 (new) The method according to claim 44, wherein the network layer includes any or all of ping response time, packet round-trip time, packet loss rate and propagation delay times.

Claim 46 (new) The method according to claim 44, wherein the application layer includes transactions responses, applications responses and end-to-end delay times.

Claim 47 (new) The method according to claim 44, wherein the data link layer includes any of link utilization, frame loss rate, number of error frames and throughput rate.

Claim 48 (new) The method according to claim 34, wherein the spatial performance model differs at a particular period of the day.

Claim 49 (new) The method according to claim 34, wherein the performance parameters include any of distance from access point, number of wireless users, network topology, building material used and time of day.